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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,645

08/06/2003

William Roland Foster

1644

37513

7590

12/17/2004

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EXAMINER

LAI, ANNE VIET NGU

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/604,645

Applicant(s)

FOSTER, WILLIAM ROLAND

Examiner

Anne V. Lai

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-25 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 10 and 11 are objected to under 37 CFR 1.75(c) as being in improper form because multiple dependent claims 10 and 11 are not properly referred back to the preceding claims, the claims should include language such as "The device as in any of claims 1-9, " or "The device as in any one of claims 1-9, ". See MPEP § 608.01(n). Accordingly, the claims 10 and 11 are not been further treated on the merits.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 12, 17, 22, 23 and 25 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claims 1 and 22 are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim 1 recites the limitation "sensors, input devices, memory" in the third sentence starting with "A processing device". There is insufficient antecedent basis for this limitation in the claim.

In claims 1, 12, 17, 22, 23 and 25, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9, 12-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lemp** [US. 6,570,506] in view of **Meify et al** [US. 2002/0046212].

Regarding claim 1, **Lemp** discloses a portable celestial object locating device for identifying celestial objects a user's viewing means is directed to and indicating that information to a user, comprising (fig. 4; col. 2, lines 11-56):

a plurality of sensors (54, 56) for detecting the orientation of the celestial object locating device;

a database of celestial objects (62), celestial coordinates, and information of potential interest (additional data, col. 4, lines 34-40);

a database of geographic location and associated latitude and longitude (col. 4, lines 6-10; col. 10, lines 2-5);

an input device including a handheld keypad (38; fig.2) or microphone for voice input (auditory command; col. 3, lines 62-64);

a plurality of output devices including a graphical display (66) and a speaker (col.3, line 65);

a processor (52) for receiving information input from sensors and the input device, calculating and determining a user's viewing axis relative to celestial objects, retrieves from the database information about celestial objects, and outputs information to the user (col. 5, lines 3-13);

a time keeping device (58);

interconnections between components above are by wire or wireless (col. 9, lines 51-56)

Although not disclosed, the power supply and the software to run the processor are inherent since they are essential elements for the functioning of an electronic device.

Lemp discloses detecting the viewing direction of the viewing means, and does not disclose specifically detecting the user's gaze; **Meify et al** teach a portable locating device for identifying objects including celestial objects, the device is attached to the user's head (31, fig. 43) and the viewing direction of the user (user's gaze) is determined by measuring the direction and inclination angle of the device utilizing data from sensors (figs. 39, 42a, 42b, 43; [0040]-[0042], [0337], [0343], [0348], [0383]) Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to apply **Meify et al** teaching to **Lemp's** celestial object

identifying device, attaching the device to the user's head or body, and detecting the user's gaze based on the detected direction and inclination angle of the device, for the convenient of the user having hand free viewing device.

Regarding claims 2-4 and 8, **Lemp** (col. 10, lines 12-25; col. 13, lines 34-59) and **Meify et al** (figs. 4, 39, 42a, 42b, 43; [0141]-148], [0348], [0350]-[0352]) disclose utilizing an earth's magnetic sensor and a gravitational sensor to determine the user's gaze based on the direction and inclination angle of the celestial locating device attached to the user's; the celestial locating device is portable and the sensors may be placed outside the device (**Meify et al** [0348]); therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to place the sensors on any part on the user's body for the convenient of the user to measure the posture of the user and the direction of the user's gaze.

Regarding claim 5, **Lemp** (col. 8, lines 38-48; col. 10, lines 12-25) discloses the gravitational sensor comprises a three-axis accelerometer to measure the inclination of the device (inclination of user's head; **Meifu** [0341], [0342],[0348]) and the direction of the user is measured by a three-axis magnetic field sensor.

Regarding claims 6, 7 and 9, **Lemp** (col. 8, lines 49-56) disclose two gyroscopes can be used to measure the inclination and direction of the user's head; and **Meify et al** [0143]-[0148] teach the use of a gyroscope to measure the inclination of the user's head and a magnetometer to measure the direction of the user.

Regarding claim 12, **Lemp** discloses sensors, input/output and computational devices are interconnected by wires or wireless signals (physical conduit, IR, RF; col. 9, lines 43-55; col. 14, lines 3-6).

Regarding claim 13, **Lemp** discloses the location of the device is determined by global positioning system signals (col. 4, lines 14-17).

Regarding claim 14, **Lemp** discloses the time is received from a radio station (time is provided by GPS; col. 4, lines 14-17).

Regarding claim 15, although not specifically disclosed by **Lemp**, it would have been obvious to one having ordinary skill in the art at the time of the invention was made the time keeping device 58 can be a real time clock, since it is the very popular device to provide time, easy supply with reduced cost.

Regarding claim 16, **Lemp** discloses the location information, time, and celestial objects being sought are input via a handheld keypad (col. 3, lines 40-42; col. 10, lines 63-65; col. 11, line 5).

Regarding claim 17, **Lemp** discloses the database of geographic locations containing information on states, town, county, region, zip code (col. 11, lines 1-5).

Regarding claim 18, **Lemp** discloses the database of celestial objects containing data in useful format for video or voice output (col. 12, lines 10-27).

Regarding claim 19, **Lemp** discloses the database of celestial objects containing information to approximating the object location (col. 11, line 40-51) or of potential interest to user (col. 12, lines 10-27).

Regarding claims 20-21, **Lemp** discloses the user can input information by voice command (auditory command, col. 3, line 64) and receive output information from the device via sound, vibration or image (col. 3, line 65; col. 8, lines 6-7).

Regarding claim 22, **Lemp** (col. 8, lines 58-60; col. 12, lines 53-65).discloses calibration and compensations to improve the accuracy of the device.

Regarding claim 23, **Lemp** discloses the processor 52 is a personal computer communicating with the other components via a wireless networking protocol (col. 9, lines 26-56).

Regarding claim 25, **Lemp** discloses the database and software (plug-in) to control the device can be downloaded into a separate storage device (col. 13, lines 9-38).

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lemp** and **Meify et al** in view of **Karaki et al** [US. 5,630,155].

Regarding claim 24, **Lemp** and **Meify et al** do not specifically disclose the mechanical power supply to the device; **Karaki et al** suggest utilizing mechanical energy to supply power to a low-power portable electronic device (abstract; col. 1, lines 12-15). It would have been obvious to one having ordinary skill in the art at the time of the invention was made the implement of a mechanical power supply in addition to a main battery power supply provide to the user the convenient of reliable supply when the main supply is running out during the operation of the device.

Conclusion

Art Unit: 2636

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Samole discloses an apparatus and method for finding and identifying nighttime sky objects. [US. 6,056,554]

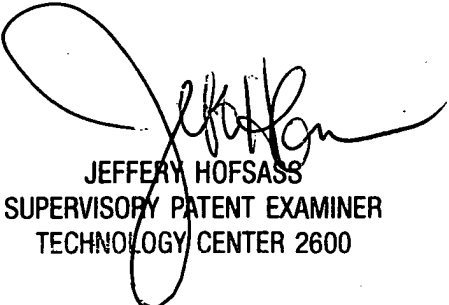
Okada discloses a portable astronomic/meteoric observation system. [US. 5,574,465]

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne V. Lai whose telephone number is 571-272-2974. The examiner can normally be reached on 8:00 am to 5:30 pm, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass Jeffery can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVL
A. V. Lai
December 10, 2004


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